

BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of Jean-Christophe Castaing, et al. § Appeal No. \_\_\_\_\_  
U.S. Serial No.: 10/538681 § Group Art Unit: 1796  
Filed: June 10, 2005 § Examiner: Robert D. Harlan  
For: A METHOD FOR ENHANCING THE § Docket No. R-02168.US  
WATER REPELLENCY OF § Date: August 4, 2009  
INORGANIC BINDER COMPOSITIONS § Confirmation No.: 3650  
THE COMPOSITIONS CAPABLE OF §  
BEING OBTAINED BY THIS METHOD §  
AND THE USES OF THESE §  
COMPOSITIONS §

**BRIEF FOR APPELLANTS (37 CFR §1.192)**

Commissioner for Patents  
Alexandria, Virginia 22313-1451

Sir:

Appellants hereby submit their brief on appeal from the decision rendered by the Examiner objecting to Claim 40 and finally rejecting claims 26-39 and 41-46 mailed on January 8, 2009; and in furtherance of the Notice of Appeal filed June 5, 2009.

The final page of this brief bears the attorney's signature.

## **TABLE OF CONTENTS**

This Brief contains these items under the following headings and in the order set forth below (37 CFR §1.192(c)):

I.	REAL PARTY IN INTEREST	3
II.	RELATED APPEALS AND INTERFERENCES	3
III.	STATUS OF CLAIMS	3
IV.	STATUS OF AMENDMENTS AFTER FINAL	3
V.	SUMMARY OF THE CLAIMED SUBJECT MATTER	4
VI.	GROUNDS FOR REJECTION TO BE REVIEWED FOR APPEAL	7
VII.	ARGUMENTS	8
VIII	PRAYER FOR RELIEF	11

APPENDIX A. CLAIMS ON APPEAL

APPENDIX B. EVIDENCE

APPENDIX C. RELATED PROCEEDINGS

## **I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is Hexion Specialty Chemicals, Inc.

## **II. RELATED APPEALS AND INTERFERENCES**

Appellants, their legal representative, and their assignee are unaware of any other appeals or interferences which will directly affect or would be directly affected by or have a bearing on the Board's decision in this pending appeal.

## **III. STATUS OF CLAIMS**

The claims appealed are Claims 26-39 and 41-46 which were finally rejected in the Office Action mailed January 8, 2009; and Claim 40 which was objected to as being dependent from a rejected claim.

## **IV. STATUS OF AMENDMENTS AFTER FINAL**

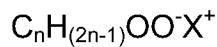
There were no amendments requested after the final rejection.

## V. SUMMARY OF THE CLAIMED SUBJECT MATTER

(Reference is made to the US 2006/0116446 publication.)

The claims on appeal are directed to:

**INDEPENDENT CLAIM 26** is to a method for enhancing the water repellency of an inorganic hydraulic binder composition, comprising the step of adding a sufficient amount of at least one monovalent cation salt of a carboxylic acid to said composition, said acid having an hydrocarbon chain optionally having halogens, hydroxyl groups, ether groups, thioether groups, ester groups, amide groups, carboxyl groups, sulfonic acid groups, carboxylic anhydride groups or carbonyl groups wherein the monovalent cation salt of a carboxylic acid has the formula



wherein n = 4 to 18 and X is an alkali metal.

The term “inorganic hydraulic binder composition” means compositions generally based upon cement and is disclosed in the specification at paragraphs 0009-0010.

The term “sufficient amount” is defined in the specification at paragraph 0026 to mean an amount sufficient to contribute good water repellency to a building composition.

The term “monovalent cation salt of a carboxylic acid” has its regular meaning within the chemical arts and is disclosed in the specification at paragraphs 0011-0016 and elsewhere.

The List of optional groups for the monovalent cation salt of a carboxylic acid, namely halogens, hydroxyl groups, ether groups, thioether groups, ester groups, amide groups, carboxyl groups, sulfonic acid groups, carboxylic anhydride

groups or carbonyl groups; is disclosed in the specification at paragraph 0014. These terms have their ordinary meaning within the chemical arts.

**INDEPENDENT CLAIM 45** is to a grout, mortar or concrete comprising an inorganic hydraulic binder composition made by the process of claim 26.

The terms grout, mortar or concrete have their ordinary English meaning. The antecedent basis for these terms may be found in paragraphs 0009 and elsewhere in the specification. The elements of Claim 26 have already been concisely described in the summary of Claim 26.

**INDEPENDENT CLAIM 46** is to a method for enhancing the water repellency of an inorganic hydraulic binder composition, comprising the step of adding a sufficient amount of at least one monovalent cation salt of a carboxylic acid to said composition, said acid having a hydrocarbon chain optionally having halogens, hydroxyl groups, ether groups, thioether groups, ester groups, amide groups, carboxyl groups, sulfonic acid groups, carboxylic anhydride groups or carbonyl groups and the step of premixing the monovalent cation salt of a carboxylic acid with a latex composition

wherein the latex composition comprises:

at least one water-insoluble polymer,

from 0 to 35% by weight, with respect to the total weight of the polymer, of at least one protective colloid,

from 0 to 30% by weight, with respect to the total weight of the polymer, of anticaking agents wherein the anticaking agents are aluminum silicates, calcium carbonates, magnesium carbonates, silicas, aluminum hydrate, bentonite, talc, kaolin, barium sulfate, titanium oxide or calcium sulfoaluminate (satin white), and

from 0.1 to 20% by weight, with respect to the total weight of the polymer, of at least one monovalent cation salt of a carboxylic acid.

The term "latex composition" may be found in the specification at paragraphs: 0018 - 0020; 0022 - 0025; and elsewhere. A more detailed description of some

of the embodiments of the latex composition may be found at paragraphs 0034-0045. The term latex composition has its ordinary meaning within the chemical arts, namely an emulsion of rubber or plastic globules in water.

The term “water insoluble polymer” may be found in the specification at paragraphs: 0042 – 0053 wherein certain preferred polymers are described in detail. The term has its ordinary meaning within the chemical arts.

The term “protective colloid” may be found in the specification at paragraph 0061 and is defined to be poly(vinyl alcohol)(s) and derivatives of the latter, for example vinyl alcohol/vinyl acetate copolymers, polyvinylpyrrolidones, polysaccharides, for example starches (amylose and amylopectin), cellulose, guar gum, tragacanthic acid, dextrin, alginates and their carboxymethyl, methyl, hydroxyethyl or hydroxypropyl derivatives, proteins, for example casein, soybean proteins or gelatins, synthetic polymers, for example poly(meth)acrylic acid, poly(meth)acrylamide, poly(vinylsulfonic acid)(s) and water-soluble copolymers of these, melamine-formaldehydesulfonates, naphthalene-formaldehydesulfonates, styrene/maleic acid copolymers and vinyl ether/maleic acid copolymers. Poly(vinyl alcohol) is particularly preferred as protective colloid for the polymerization. A protective colloid particularly used is a poly(vinyl alcohol) having a degree of polymerization of 200 to 3500 and having a degree of hydrolysis of 80 to 98 mol%.

The term “anticaking agents” is defined within the claim to mean aluminum silicates, calcium carbonates, magnesium carbonates, silicas, aluminum hydrate, bentonite, talc, kaolin, barium sulfate, titanium oxide or calcium sulfoaluminate (satin white). An antecedent basis for this claim may be found at paragraph 0062.

All other terms within this claim are defined in the summary of Claim 26.

## **VI. GROUNDS FOR REJECTION TO BE REVIEWED FOR APPEAL**

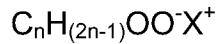
The grounds for rejection to be reviewed for appeal are:

- (1) Whether the Examiner has established that Claims 26-39 and 41-46 are properly rejected under 35 U.S.C. 102(b) as being anticipated by Nielsen, U.S. Patent No. 4,169,736 (hereinafter "Nielsen") .
- (2) Whether the Examiner has properly objected to Claim 40 as depending on a rejected base claim.

## VII. ARGUMENTS

**(1) The Examiner has rejected Claims 26-39 and 41-46 under 35 U.S.C. 102(b) as being anticipated by Nielsen.** It is the Examiner's position that Nielsen teaches an improving additive for cement and related masses based on an inorganic binder (e.g., lime) comprising an alkali extract of ligno-cellulosic materials, the extract being modified with a fatty acid or an oily ester (the alkali extract modified with fatty acid corresponds to a monovalent cation salt of a carboxylic acid). The Examiner cites Nielsen, Abstract; col. 1, line 62 through col. 2, line 2, for this position. The Examiner further states that the alkali extract modified with a fatty acid "has varying amounts as additives to the cement or lime grout" (read as is added in varying amounts to the cement or lime grout) and cites col. 2, line 30-68 for this position. Finally, the Examiner states that Nielsen also teaches the addition of a synthetic binder such as a polyacrylate, citing Nielsen at col. 3, lines 50-68. The Examiner concludes that the alkali extract is derived from an alkali metal.

**Claims 26 and 45 are not anticipated by Nielsen.** Both of these claims have a limitation that the monovalent cation salt of a carboxylic acid has the formula



wherein n = 4 to 18 and X is an alkali metal. Nielsen does not teach nor suggest the use of such a carboxylic acid salt. The part of Nielsen cited by the Examiner reads:

(ABSTRACT) Improving additive for cement and related masses based on an inorganic binder, comprising an alkali extract of lignocellulosic materials, the extract being modified with a fatty acid or an oily ester thereof; a process for the preparation of such additive; and a method of using the additive in improving the hardening characteristics of a cement or related mass.

(Column 1, Line 62 – Column 2, line 2) The present invention, which is further characterized in the appended patent claims, is therefore based on the extract of cellulosic materials obtained by treating such materials with alkali, suitably at room temperature. The material, such as straw, may be treated in the state as harvested, but it may be advantageous first to cut it into shorter pieces and possibly also subject the same to light

mechanical crushing, for example between rolls in order to accelerate the digestion.

It is the Examiner's position that an extract such as that cited in Nielsen would have the same structure as that of the monovalent cation salt of a carboxylic acid claimed in Claims 26 and 45. The Appellants do not believe that there is a basis for the Examiner's position.

Cellulose is a biopolymer of glucose. Lignin is a biopolymer of p-coumaryl alcohol, coniferyl alcohol, and sinapyl alcohol. In Nielsen, a lingo-cellulose such as straw is digested with a solution of at least 5% alkali (Nielsen, column 2, lines 3-4). The results of this digestion cannot be used directly in a motor or grout as is because it immediately makes a grout "clotty to gravel-like." (Id., column 2, lines 30-34). This witches brew is further "modified" by a "neutralization or perhaps rather a saponification" (Id, column 2, 35-39). The full description from Nielsen reads:

This neutralization or perhaps rather saponification is in accordance with the invention performed by means of fatty acids being in a liquid state at or slightly above room temperature, such as up to about 35°C. However, the fatty acids need not be used as such since it has been found to work equally well with their oily esters, for example in the form of vegetabilic oils. Thus, excellent results have been obtained with rape oil, peanut oil, corn oil, sweet oil, olive oil and mustard oil. Suitable proportions of oil admixed into the alkali extract are about 2.5 to 5 volume parts of oil per 100 volume parts of diluted extract.

(Id., at column 2, 35-47). This is far removed from the claimed monovalent cation having from 4 to 18 carbons.

**(2) The Examiner has objected to Claim 40 as being allowable but depending from a rejected claim AND Rejected Claim 46 as being anticipated by Nielsen.** The Appellants assert that these two positions are mutually exclusive. Claim 46, is Claim 40 rewritten to include the limitations of Claims 26 (prior to amendment but within the scope of the allowable subject matter stated by the Examiner in the first office action), 31, and 36. If Claim 40 is

allowable except for depending from a dependent claim, then Claim 46 must be allowable. The Appellants take the position that Claim 26 and all dependent claims are actually allowable and not anticipated by Nielsen, but clearly Claim 46 is allowable on its own in view of the Examiner's position after the first office action.

### **VIII. PRAYER FOR RELIEF**

It is respectfully submitted that the rejections of the claims have been overcome and/or avoided by the arguments presented above. It is further respectfully requested that the Board reverse the final rejections. The Examiner and/or the Board are encouraged to call the Appellants' attorney at the number below for any reason that may advance prosecution of the case.

Respectfully submitted,  
Natalie Suzanne Grooms, et al.

/Gene L. Tyler/

---

Gene L. Tyler  
Registration No.: 35,395  
Attorney for Appellants  
Telephone No.: 713-243-8711  
Direct: 713-243-8732  
Fax: 713-243-8704  
e-mail: gtyler@mktlaw.us.com

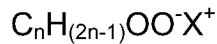
## **Appendix A**

### **Claims On Appeal**

## CLAIMS ON APPEAL

1-25 (Canceled)

26. A method for enhancing the water repellency of an inorganic hydraulic binder composition, comprising the step of adding a sufficient amount of at least one monovalent cation salt of a carboxylic acid to said composition, said acid having an hydrocarbon chain optionally having halogens, hydroxyl groups, ether groups, thioether groups, ester groups, amide groups, carboxyl groups, sulfonic acid groups, carboxylic anhydride groups or carbonyl groups wherein the monovalent cation salt of a carboxylic acid has the formula



wherein n = 4 to 18 and X is an alkali metal.

27. The method as claimed in claim 26, wherein the monovalent cation salt of a carboxylic acid is in the form of a powder in the inorganic hydraulic binder composition.

28. The method as claimed in claim 26, wherein the amount is between 0.001% and 3% by dry weight of the monovalent cation salt of a carboxylic acid, with respect to the total weight of the composition.

29. The method as claimed in claim 28, wherein the amount is between 0.01% and 0.5%.

30. The method as claimed in claim 29, wherein the amount is between 0.03% and 0.15%.

31. The method as claimed in claim 26, further comprising the step of premixing the monovalent cation salt of a carboxylic acid with a latex composition.

32. The method as claimed in claim 31, wherein the amount of the monovalent cation salt of a carboxylic acid, with respect to the total weight of dry latex, is between 0.1 and 20% by weight, with respect to the weight of the dry latex.

33. The method as claimed in 31, wherein the monovalent cation salt of a carboxylic acid is added in the powder form to the latex composition in the form of a redispersible powder.

34. The method as claimed in claim 31, wherein the monovalent cation salt of a carboxylic acid is added in the powder or solution form to the latex composition in the form of an aqueous dispersion during the polymerization or at the end of the polymerization.

35. The method as claimed in claim 31, wherein the monovalent cation salt of a carboxylic acid is added in the powder form to the latex composition during a further step of drying by atomization of the latex.

36. The method as claimed in claim 31, wherein the latex composition comprises:

at least one water-insoluble polymer,

from 0 to 35% by weight, with respect to the total weight of the polymer, of at least one protective colloid,

from 0 to 30% by weight, with respect to the total weight of the polymer, of anticaking agents, and

from 0.1 to 20% by weight, with respect to the total weight of the polymer, of at least one monovalent cation salt of a carboxylic acid.

37. The method as claimed in claim 36, wherein the water-insoluble polymer is obtained by polymerization of vinyl esters, alkyl acrylates, alkyl methacrylates, whose alkyl group has from 1 to 10 carbon atoms, and/or vinyl aromatic monomers.

38. The method as claimed in claim 37, wherein the water-insoluble polymer is obtained by polymerization of monomers selected from the group consisting of: vinyl acetate, methyl methacrylate, ethyl methacrylate, n-butyl methacrylate, 2-ethylhexyl methacrylate, methyl acrylate, ethyl acrylate, n-butyl acrylate, 2-ethylhexyl acrylate, and styrene.

39. The method as claimed in claim 37, wherein the monomers are further copolymerized with other monomers possessing ethylenic unsaturation being

olefins, vinyl esters of saturated, branched or unbranched, monocarboxylic acids having from 1 to 12 carbon atoms, esters of branched C<sub>9</sub>-C<sub>11</sub> acids, vinyl pivalate or vinyl laurate; esters of unsaturated mono- or dicarboxylic acids having 3 to 6 carbon atoms with alkanols having 1 to 10 carbon atoms, vinyl aromatic monomers, vinyl halides, diolefins, (meth)allyl esters of (meth)acrylic acids; (meth)allyl esters of the mono- and diesters of maleic, fumaric and itaconic acid; or alkene derivatives of amides of acrylic and methacrylic acids.

40. The method as claimed in claim 36, wherein the anticaking agents are aluminum silicates, calcium carbonates, magnesium carbonates, silicas, aluminum hydrate, bentonite, talc, kaolin, barium sulfate, titanium oxide, or calcium sulfoaluminate (satin white).

41. The method as claimed in claim 26, wherein the monovalent cation salt of a carboxylic acid has the formula C<sub>n</sub>H<sub>(2n-1)</sub>OO<sup>-</sup>X<sup>+</sup> wherein n = 4 to 18 and X is sodium, potassium, lithium, ammonium or quaternary amines.

42. The method as claimed in 41, wherein n = 8 to 16.

43. The method as claimed in claim 26, wherein the monovalent cation salt of a carboxylic acid is sodium laurate and/or potassium laurate.

44. The method as claimed in claim 26, wherein the hydraulic binder is a cement, cement of Portland, high-alumina cement, blast-furnace cement, fly ash, calcined shale or pozzolan.

45. A grout, mortar or concrete comprising an inorganic hydraulic binder composition made by the process of claim 26.
46. A method for enhancing the water repellency of an inorganic hydraulic binder composition, comprising the step of adding a sufficient amount of at least one monovalent cation salt of a carboxylic acid to said composition, said acid having an hydrocarbon chain optionally having halogens, hydroxyl groups, ether groups, thioether groups, ester groups, amide groups, carboxyl groups, sulfonic acid groups, carboxylic anhydride groups or carbonyl groups and the step of premixing the monovalent cation salt of a carboxylic acid with a latex composition wherein the latex composition comprises:
- at least one water-insoluble polymer,  
from 0 to 35% by weight, with respect to the total weight of the polymer, of  
at least one protective colloid,  
from 0 to 30% by weight, with respect to the total weight of the polymer, of  
anticaking agents wherein the anticaking agents are aluminum silicates, calcium carbonates, magnesium carbonates, silicas, aluminum hydrate, bentonite, talc, kaolin, barium sulfate, titanium oxide or calcium sulfoaluminate (satin white), and  
from 0.1 to 20% by weight, with respect to the total weight of the polymer,  
of at least one monovalent cation salt of a carboxylic acid.

## **APPENDIX B**

### **Evidence**

**NONE**

## **APPENDIX C**

### **Related Proceedings**

**None**